

RENYI-VAMOS, F.

Lymphatic circulation in testis and epididymis. Acta med. hung.  
Suppl. 6 no.1:38-41 1954.

1. Urologische Klinik der Medizinischen Universität, Pecs.

(LYMPHATIC VESSELS

testes & epididymis)

(TESTES, anat. & histology

lymphatic vessels)

(EPIDIDYMIS, anat. & histology

lymphatic vessels)

EXCERPTA MEDICA Sec 2 Vol 12/10 Physiology Oct 59

4545. ALKALINE PHOSPHATASES IN LYMPH - Über den Gehalt der Lymphe an alkalischer Phosphatase - Rényi-Vámos F., Biró J., Grász E. and Rényi-Vámos M. Urol. Klin., Med. Univ., Budapest - Z.GES. EXP. MED. 1959, 131/1 (60-66) Tables 2

Lymph from all regions of the body contains alk. phosphatase. After food intake the activity rises in the plasma, in cervical lymph and very markedly in intestinal lymph. Fats have the greatest effect. The lymph in the extremities is not influenced by food intake. It is concluded that the plasma phosphatase is continually being replaced by phosphatase from lymph.

Klein - Milan

RENYI-VAMOS, F.; MAGASI, P.; MATYUS, E.

Histamine content of hydronephrotic kidneys and its significance for pathophysiology of the disease. Acta med. hung. 6 no.1-2: 1-11 1954.

1. Urologische Klinik der Medizinischen Universitat, Budapest.

(HYDRONEPHROSIS, exper.

off. on renal histamine content in rabbits)

(HISTAMINE, metab.

kidneys in exper. hydronephrosis in rabbits)

(KIDNEYS, metab.

histamine in exper. hydronephrosis in rabbits)

RENYI-VAMOS, F.

HUNG

✓The protein fraction of lymph. F. Rényi-Vámos, Z. Szendrői, and P. Magasi (Univ. Budapest). *Acta Physiol. Acad. Sci. Hung.* 6, 409-28(1954)(in German).—Human testicular and urethral discharges as well as lymph from liver, kidney, kidney capsule, testicle, small intestine, hind legs, and thoracic duct of dogs were analyzed by paper electrophoresis. In all cases, the blood protein fractions could be identified. In most cases, lymph from dog liver, testicle, intestine and hind legs had a higher albumin/globulin ratio than in blood serum. Herman I. Chinn

# HUNG.

✓The histamine content of the hydronephrotic kidney and its significance for the pathophysiology of the syndrome. F. Rényi-Vámos, P. Magasi, and E. Mátyus (Univ. Budapest). *Acta Med. Acad. Sci. Hung.* 6, 1-11 (1964) (in German).—Whereas normal rabbit kidneys contain 0.2  $\gamma$  histamine (I) per g., the I content of hydronephrotic kidneys is higher. The increased I content is responsible for increased capillary permeability, which in turn causes edema, etc. Erich Heftmann.

RENYI-VAMOS, F.; SZENDROI, Z.; MAGASI, P.

Protein fractions in the lymph. Acta physiol. hung. 6 no.4:409-426 1954.

1. Urologische Klinik der Medizinischen Universitat, Budapest  
(PROTEINS

fractions in lymph, comparison with blood protein  
fractions, electrophoresis)

(LYMPH

protein fractions, comparison with blood protein  
fractions, electrophoresis)

(BLOOD PROTEINS

fractions, comparison with lymph protein fractions,  
electrophoresis)

(ELECTROPHORESIS

of lymphprotein fractions, comparison with blood  
protein fractions)

RENYI-VANOS, F.; SZINAY, Gy.

The lymphatic system of the stomach in ulcus ventriculi. Acta  
morph. hung. 4 no.3:353-365 1954.

I. Urologische Klinik (Vorstand: Prof. A.Babics) und II. Institut  
für Pathologische Anatomie (Vorstand: Prof. L.Haranghy) der  
Medizinischen Universität, Budapest.

(LYMPHATIC VESSELS, in various dis.  
peptic ulcer)

(PEPTIC ULCER, pathol.  
gastric lymphatic vessels)

*Kenyi-Vamosi*

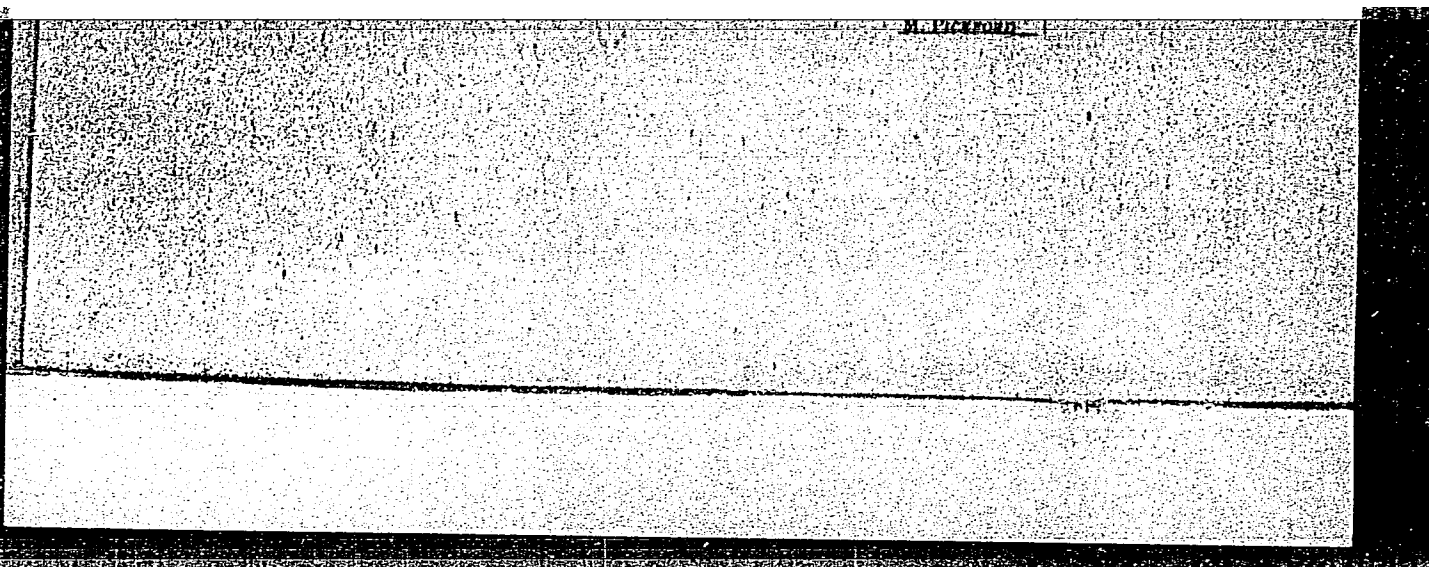
✓ 5740. Protein fractions of the lymph. E. Rényi-Vamosi, Z. Szen-  
aró, and P. Magasi *Acta physiol. Acad. Sci. Hung.*, 1954, 6, 409-  
428 (Urological Clinic, Med. Univ., Budapest, Hungary).—It was  
shown by paper electrophoretic analysis that the qual. protein  
composition of the lymph is identical with that of the blood plasma.  
The lymph investigated came from the following regions: human  
testes and urethra, dog liver, kidney, kidney capsule, testes, small  
intestines, hind legs and thoracic duct. The a/g quotient was in the  
majority of cases higher in the lymph than in the blood serum;

in a minority of cases it was equal and in 2 of 74 analyses it was  
higher. The lymph is held to be a phase in the "life cycle" of blood  
proteins. (Hungarian)  
A. B. L. BEZNÁK



"APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R001444



APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R0014446

RENYI-VAMOS, F.; JELLINEK, H.

The lymphatic vascular system of the gallbladder and its pathological significance. Acta med. hung. 10 no.3:295-308 1957.

1. Urologische Klinik und II. Institut für Pathologische Anatomie der Medizinischen Universität, Budapest.

(GALLBLADDER

lymphatic vessels in cats, demonstration methods & histol. changes in various pathol. cond. (Ger))

(LYMPHATIC VESSELS

of gallbladder in cats, demonstration methods & histol. changes in various pathol. cond. (Ger))

KÉNYI-VÁMOS F.

EXCERPTA MEDICA Sec.2 Vol.9/10 Physiology, etc. Oct56

4556. RÉNYI-VÁMOS F. Urol. Klin., Med. Univ., Budapest. \*Das Lymphgefäßsystem des Dünndarms und seine Rolle im Fetttransport. The lymphatic system of the small intestine; its role in the transport of fat ACTA MED. ACAD. SCIENT. HUNG. (Budapest) 1956, 9/1-2 (153-164) Illus. 12

Dogs were killed 2 to 24 hr. after the regional intestinal lymph nodes had been ligated. Then parts of the small intestine were ligated together with their vessels, cut out and fixed by injecting formalin into the lumen. Serial sections were studied. No lymph vessels were found in the villi and the mucosa. Fat must be transported through the stroma. In the submucosa, lymphatic plexuses and efferent vessels with valves were found; in the muscularis and the subserosa only efferent vessels were found, but no plexuses.

Ten Cate - Amsterdam (I, 2)

RENYI-VAMOS, Ferenc; Jellinek, Harry

Lymphatic system of the gall bladder and its pathological significance. Magy. Tudom. Akad. Biol. Orv. Oszt. Kozl. 8 no.1-2:107-110 1957.

1. A Budapesti Orvostudományi Egyetem Urológiai Klinikája és II. Kórházának Intézete.

(LYMPHATIC VESSELS

of gall bladder in cats, pathol. significance (Hun))

(GALL BLADDER, anat. & histol.

lymphatic vessels in cats, pathol. significance (Hun))

RENYI-VAMOS, Ferenc

Problems of lymphatic research. Magy. Tudom. Akad. Biol.  
Orv. Oszt. Kozl. 6 no.2:155-164 1955.

1. A Budapesti Orvostudományi Egyetem Urológiai Klinikája.  
(LYMPHATIC VESSELS  
capillaries. (Hun))

RENYI-VAMOS, Ferenc, dr., I. Kiserleti resz.; MAGASI, Peter, dr.,  
II. Klinikai resz.; BABICS, Antal, dr.

Experiences with a Hungarian made hemostatic and absorbable cotton  
wool in transvesical prostatectomy. Orv. hetil. 97 no.10:265-267  
4 March 56.

1. A Budapesti Orvostudományi Egyetem Urológiai Klinikájának  
(igazgató: Babics, Antal dr. egyet. tanár) közleménye.

(HOMOSTASIS

oxidized cellulose in transvesical prostatectomy, use  
& value. (Hun))

(PROSTATE, surg.

transvesical, hemostasis with oxidized cellulose, use  
& value. (Hun))

RENYU-VAMOS FERENC, Dr.; RONA GYORGY, Dr.

Lymphatic vessels of the tube and their pathological significance. Magy. noorv. lap. 20 no.3: 149-153 July 57.

1. A Budapesti Orvostudományi Egyetem Urológiai Klinikájának (igazgató: Babics Antal dr. egyet. tanár) és az I. sz. Kórházi és Kísérleti Orvostudományi Intézet (igazgató: Baló József dr. egyet. tanár) közleménye.

(FALLOPIAN TUBES, anat. & histol.

lymphatic vessels, histol. demonstration & pathol. significance (Hun))

(LYMPHATIC VESSELS, anat. & histol.

Fallopian tubes, histol. demonstration & pathol. significance (Hun))

RENYI-VAMOS, Ferenc, orvostudományok doktora.

Lymphatic system of the testes and epididymis. Magy. Tudom. Akad.  
Biol. Orv. Oszt. Kozl. 6 no.1:83-95 1955.

1. A Budapesti Orvostudományi Egyetem Urológiai Klinikája.  
(LYMPHATIC SYSTEM, anatomy and histology,  
epididymis & testes lymphatic system.)  
(TESTES, anatomy and histology,  
lymphatic system.)  
(EPIDIDYMIS, anatomy and histology,  
lymphatic system.)



RENYI-VAMOS, Ferenc

BABICS, Antal, dr.; FOLDI, Mihaly, dr.; RENYI-VAMOS, Ferenc, dr.; ROMHANYI, Gyorgy, dr.; RUSZNYAK, Istvan, dr. SZABO, Gyorgy, dr.

The significance of the lymphatic system of the liver in choledochal stenosis and cholangitis. Magy belorv. arch. 7 no.3:86-91 June 54.

1. A Budapesti Orvostudományi Egyetem I. sz. Belklinikájának (igazgató: dr. Rusznyak István egyetemi tanár) Urológiai Klinikájának (igazgató: dr. Babics Antal egyetemi tanár) és a Pécsi Orvostudományi Egyetem Kórházának Intézetének (igazgató: dr. Romhányi György egyetemi tanár) közleménye.

(BILE DUCT, COMMON, stenosis,  
liver lymphatic system in)

(CHOLANGITIS, physiology,  
liver lymphatic system)

(LIVER,  
lymphatic system in cholangitis & choledochal stenosis)

(LYMPHATIC SYSTEM,  
liver, in cholangitis & choledochal stenosis)

*Renyi-Vamos, Ferenc*

BABICS, Antal, dr.; FOLDI, Haly, M., dr. RENYI-VAMOS, Ferenc, dr.; ROMHANYI, Gyorgy, dr. RUSZNYAK, Istvan, dr. SZABO, Gyorgy, dr.

Dissé's spaces and the lymphatic system of the liver. *Magy. belorv. arch.* 7 no.1:7-10 Feb 54.

1. A Budapesti Orvostudományi Egyetem I. sz Belklinikájának (Igazgató: Rusznyak István dr. egyetemi tanár), Urológiai Klinikájának (Igazgató: Babics Antal dr. egyetemi tanár) és a Pécsi Orvostudományi Egyetem Kórházának (Igazgató: Romhányi György dr. egyetemi tanár) közleménye.

(LIVER, anat. & histol.

Dissé's spaces & lymphatic system)

(LYMPHATIC SYSTEM

liver)

HENYI-VANKO, F. 1949

(Clinic for Surgical Urol. U. of Budapest)

"The Effects of Drugs on Renal Pelvic Pressure Conditions."

Acta Urological, Budapest, 1949 3/1-2(43-46)  
Abst: Exc. Med. 11, Vol. 111, No. 1, p. 98

FRYI-VAKOS, F. 1949

"Modification(shunt) of the Renal Circulation Following Experimental Injection and Occlusion of the Renal Pelvis. Preliminary Communication."

Orvosi Hetilap, Budapest 1949 90/10(318-319)  
Abst: Exc. Med. V. Vol. 11, No. 12, p. 934

HENYI-VAMOS, F. 1948

(Urol. Clinic of U. of Budapest)

"Changes in the Musculature of the Renal Calyces and their Significance in Pelvic Obstruction."

Acta Urologica, Budapest, 1948 2/5(6) (143-144)  
Abst: Exc. Med. V. Vol. 11, No. 9, p. 693

FENEL-VANOS, F. 1951

(A Budapesti Orvostudományi Egyetem Urológiai Klinikája.)

"Factors Promoting the Renal Lymph Circulation."

Fiseri Orvostud. 1951 3/3(189-191)

Abst: Exc. Med. 11, Vol. 5, No. 3, p. 350

RENYI-VAVOS, F. 1948

(Urology Clinic, U. of Budapest)

"Hydromechanism of the Renal Cavity System."

Acta Urologica, 1948 2/3-4(106-110)

Abst: Enc. Med. 11, Vol. 11, No. 3, p. 340

KNYI-VANOS, F. 1948

(Urol. Clinic, U. of Budapest)

"When does Urological Disease Cause High Blood Pressure?"

Acta Urologica, Budapest, 1948. 2/3-4(124-131)

Abst: Exc. Med. V. Vol. 11, No. 3, p. 225



P. RENYI-VAHOS, G. ROMA

"Lymph vessels of the kidney in acute and subacute glomerulonephritis." P. 421  
(ACTA MORPHOLOGICA ACADEMIAE SCIENTIARUM HUNGARICAE, Vol. 2, no. 4, 1952, Budapest,  
Hungary)

SO: Monthly List of East European Accessions, L.C., Vol. 2 No. 7, July 1953, Uncl.

1ST AND 2ND CIPHERS																										3RD AND 4TH CIPHERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p>BC</p> <p>Effect of thymectomy on the bone marrow of rats. G. Kleiner and F. Rapp. <i>Journal of the American Medical Association</i> 205: 1005-1006 (1961). —Smears from the bone marrow were prepared from rats with thymectomy about 8-10% of the body weight. The number of eosinophils increased after administration. The number of neutrophils did not increase and the blood contained no eosinophils. The number of eosinophils increased from 5% to 34% after a week and during the neutrophil granulocytes many irregular cells occurred, but the bone marrow exhibited no eosinophilia. A. W. M.</p>																																																			
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REN LIT 15 17 1957

Separation by chemical exchange reactions of the stable isotopes of nitrogen. I. G. M. Panchenkov, I. A. Semlokhin, A. A. Ranzarova, V. V. Molchanov, and O. P. Kalashnikov (M. V. Lomonosov State Univ., Moscow). Zhur. Fiz. Khim. 31, 1352-8 (1957).—The effect of the nature and the size of the packing in the reaction column on the sepn. of N isotopes, and the effect of  $\text{NH}_3$  partial pressure during the reaction  $\text{N}^{14}\text{H}_3 \text{ gas} + \text{N}^{14}\text{H}_4\text{NO}_3(\text{soln.}) \rightleftharpoons \text{N}^{14}\text{H}_3(\text{gas}) + \text{N}^{14}\text{H}_4\text{NO}_3(\text{soln.})$  was investigated. Coarse grain, medium-pore  $\text{SiO}_2$  and  $\text{Al}_2\text{O}_3$  gels, fire brick and activated coal, either coated with  $\text{Al}_2\text{O}_3$  or with  $\text{ZnO}$ , or uncoated were used as the packing. Also etched or unetched glass rods, glass rings of the Fenske type, different-size triangular prisms, and rings of C- or Ni-Cr steel. All tests were made at standard temp. ( $20^\circ$ ), a const. feeding rate of the soln. to the column (2 ml./min.), and a pressure of 1 atm. The isotope sepn. was improved at lower  $\text{NH}_3$  partial pressure, was affected by the nature and geometry of the packing, and was best with Ni-Cr steel prisms about 6 mm. in size.

Distr: 4E4j

W. M. Sternberg

REYKHIN, G.F.

REYKHIN, G.F.: Methods of teaching the subject 'Electric current in a vacuum and in gases' in the course in physics in the children's class of a secondary school". Moscow, 1955. Min Education RSFSR. Moscow Oblast Pedagogical Inst. (Dissertations for the Degree of Candidate of Pedagogical Sciences).

90: Knizhnaya letopis' No 45, 5 November 1955. Moscow.

RENZHIN, N.A.

Forms of assembly-line organization of production and conditions  
determining their application. Trudy NPI 139:33-42 '62.  
(MIRA 16:6)

(Assembly-line methods)

(Machinery industry)

RENZHIN, V.I., inzh.

Overcoming shortcomings in construction under winter conditions  
in the East. Stroi. truboprov. 5 no.8:9-11 Ag '60. (MIRA 13:9)  
(Siberia--Pipelines--Cold weather conditions)

RENZHIN, V.I., inzhener.

Nomogram for calculating coefficients of filtration and flow in  
boreholes according according to experimental pumping data. Rats.  
i izobr. predl. v stroi. no.129:18-21 '56. (MLRA 9:9)  
(Boring) (Soil percolation)

RENZIKOV, A. P.

REZNIKOV, A. F. "Spilito-Keratophytic rocks of the Lower Jurassic volcanogenic  
SUITE of East Digoriya in the Northern Caucasus," Uchen. Zapiski (Rost. n/D  
gos. un-t im. Molotova), Vol. XI, 1948, p. 97-109 ---Bibliog: 17 items

SO: U-3566, 15 March, 53 (Letopis 'Zhurnal 'nykh Statey, No. 14, 1949).



ALPHABETIC INDEX																									
A-Z													A-Z												
<p>Some rationalization measures connected with the utilization of sulfate pulp. M. KERNIN. <i>Bumashovs From 10, No. 8, 16-21(1931)</i>—R. discusses the utilization of paper obtained from sulfate wood pulp in the production of parchment and cotton fiber paper, and in substituting it for sulfite pulp in the making of newsprint paper. CHAS. BLANC</p>																									
<p>ASME-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																									

**CIA-RDP86-00513R0014446**

JERZYKOWSKA-KULESZYNA, K.; RENZ-SOLAWA, M.; ZYWICKA-TWAROWSKA, I.

Comparative evaluation of clinical and radiological lung examinations in newborn infants. *Pediatr pol* 36 no.1:5-13 '61.

1. Z I Kliniki Położnictwa i Chorob Kobietych A.M. w Poznaniu  
Kierownik: doc. dr med. W. Michalkiewicz i z Zakładu Radiologii  
Lekarskiej A.M. w Poznaniu Kierownik: doc. dr med. B. Gładysz.

(LUNG DISEASES in inf & child) (INFANT NEWBORN dis)

GAIAS-ZGORZALEWICZ, Bozena; RENZ-SOLAWA, Maria

A case of idiopathic hemosiderosis of the lungs in a 13-year-old boy. *Pediatr.polska* 35 no.1:69-72 Ja '60.

1. Z Oddziału Chorob Wewnętrznych Wojewódzkiego Szpitala Dziecięcego w Poznaniu. Dyrektor Szpitala: dr.med. M. Stabrowski. Ordynator Oddziału: dr. Z. Majewska-Jezińska  
(HEMOSIDEROSIS in adolescence)  
(LUNG DISEASES in adolescence)

RECK, A.; LAZAR, G.; KOVATS, T.G.

The role of indigenous heparin in the pathomechanism of Shwartzman phenomenon. Acta physiol.hung. 17 no.3:349-354 '60.

1. Institute of Pharmacology, Medical University, Szeged.  
(ALLERGY exper)  
(HEPARIN blood)

R. OK, Andras, dr.; SZOMBATHY, Zsigmond, dr.

Isolated tuberculosis of the portio vaginalis. Tuberkulozis 15 no.6:  
184-186 Je '62.

1. A Borsod megyei Semmelweis Korház I. Nagygyógyászati osztályának  
(Főorvos: Nemcskay Tivadar dr. egyet. m. tanár) és Prosecturájának  
(Főorvos: Sotonyi Gábor dr.) közleménye.  
(TUBERCULOSIS FEMALE GENITAL statist)

KOVATS, T.G.; LAZAR, G.; RECK, A.; VEGH, P.

Glycoprotein changes in the course of Shwartzman phenomenon.  
Acta physiol.hung. 17 no.3:343-348 '60.

1. Institute of Pharmacology, Medical University, Szeged.  
(ALLERGY exper)  
(GLYCOPROTEINS blood)

KOVATS, Tibor György; REÖK, Andor; LAZAR, György; TAKATS, Istvan

Changes in the total fat, cholesterol, phosphatides and fat depot  
in Shwartzman phenomenon. Kiserletes Orvostudomány 11 no.6:615-620  
D '59.

1. Szegedi Orvostudományi Egyetem Gyógyszertani Intézete.  
(ALLERGY exper.)  
(FATS metab.)  
(CHOLESTEROL metab.)  
(PHOSPHOLIPIDS metab.)



KOVATS, Tibor Gyorgy; LAZAR, Gyorgy; REOK, Andor; VEGH, Pal

Glycoprotein changes in Shwartzman phenomenon. Kiserletes  
Orvostudomány 12 no.1:30-34 P '60.

1. Szegedi Orvostudományi Egyetem Gyógyszertani Intézete.  
(ALLERGY exper)  
(GLYCOPROTEINS blood)

MOGILEVKIN, M.A., inzh.; REOLOGIV. I.I., inzh.

Trailers for transporting large-panel partitions. Trnasp.stroi. 9  
no.6:24-25 Je '59. (MIRA 12:11)  
(Concrete panels--Transportation)  
(Truck trailers)

REOUTTE, A.

"Composes organosilicies non satures. I. Obtention de l'hexaacetylenesiloxane et du triethoxysilylphenylacetylene". Volnov, J. et Reoutte, A. (p. 1600)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1940, Volume 10, no. 17.

**CIA-RDP86-00513R0014446**

The adsorption of sulfate and chloride ions from sea water by sea mud. A. G. Nepa. *Midd. Eur. East. Branch Acad. Sci. U. S. S. R. No. 18, 190-4 (German 1944) (1945)*.—The ratio sulfate/chloride is altered slightly at first by adsorption on sea-bottom mud, and thereafter is unchanged. H. M. Leicester

ASB-314 METALLURGICAL LITERATURE CLASSIFICATION

**CIA-RDP86-00513R0014446**

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<p><i>ca</i> <span style="float: right;"><i>2</i></span></p> <p>The adsorption of sulfate and chloride ions from sea water by ice. I. A. G. Hops. <i>Bull. Far East. Branch Acad. Sci. U. S. S. R.</i> No. 31, 43-7 (in English, 48) (1934); cf. C. A. 31, 2482. Preliminary tests with prep. solns. of Na and Mg sulfates and chlorides indicate a selective adsorption of sulfate ions by ice with subsequent formation of <math>\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}</math> and <math>\text{MgSO}_4 \cdot 7\text{H}_2\text{O}</math>. After the state of equil. is reached, the ratio sulfate/chloride in the soln. is increased to a nearly normal condition as a result of the gradual melting of ice. Chas. Blanc</p>																			
<p>ASB-11A METALLURGICAL LITERATURE CLASSIFICATION</p>																			
13001 SYNDICATE										13001 SYNDICATE									
13001 SYNDICATE										13001 SYNDICATE									

1ST AND 2ND GROUPS																										3RD AND 4TH GROUPS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p>The solubility of calcium salts in sea water. A. G. Mops and T. K. Legkova. <i>Bull. Far East. Branch Acad. Sci. U. S. S. R.</i> No. 32, 59-68 (1958).—Methods for the removal of Ca salts (<math>\text{CaSO}_4</math> (I) and <math>\text{Ca}(\text{HCO}_3)_2</math> (II)) from sea water were studied. The solubility of II in the system I-II-<math>\text{H}_2\text{O}</math> is the same as in sea water. The addn. of II (by bubbling in <math>\text{CO}_2</math> at different pressures) to sea water results in almost complete removal of I. II ppts. from 12-15 "Hé. sea water solns. at 60°. At temps. of 0° and lower I is metastable in salt solns.</p> <p style="text-align: right;">John Livak</p>																																																			
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			
<p>REGIONAL LITERATURE</p>																																																			
<p>1ST AND 2ND GROUPS</p>																																																			



**CA**

**Solubility isotherms and the solid phases of the system  $V_2O_5$ - $SO_3$ - $Na_2O$ - $H_2O$ .** S. Z. Makarov and A. G. Repa. *Bull. acad. sci. U. R. S. S. (Classe sci. chim.)* 1960, 349-77 (in English, 377-80). — The following V minerals are found in U. S. S. R.: folbortite  $(Cu, Ca, Ba)_3V_2O_6(OH)_4 \cdot 6H_2O$  (Ural), carnotite  $VO_2 \cdot UO_2 \cdot K_2 \cdot 1.5H_2O$ , Ni and Cu vanadates, turanite and alaite  $(VO_2)_2 Cu_2(CuOH)_2$  (Turkmenia), tuzamunite  $CaO \cdot 2UO_2 \cdot V_2O_5 \cdot 4H_2O$  (Pergana), ferganite  $(VO_2)_2 U_2 \cdot 6H_2O$  and vanadinite  $Pb_3(VO_4)_2 \cdot PbCl_2$ . Criticism of literature data on hydrates of  $V_2O_5$  and soly. of  $V_2O_5$  in  $H_2SO_4$  and  $NaOH$  and exptl. study of the isotherms of the systems  $V_2O_5$ - $SO_3$ - $H_2O$  and  $V_2O_5$ - $Na_2O$ - $H_2O$  at 25° and 75° and of  $V_2O_5$ - $SO_3$ - $Na_2O$ - $H_2O$  at 25° showed the existence and the stability at these temps. in  $H_2SO_4$  soln. of the following compds.:  $V_2O_5 \cdot 3H_2O$ ,  $V_2O_5 \cdot 2H_2O$  and  $V_2O_5 \cdot H_2O$ , but the hydrate  $3V_2O_5 \cdot 2H_2O$  and the acid  $H_2V_2O_7$  do not exist. Further, the following compds. are stable at 25° and 75°:  $Na_2V_2O_7 \cdot 20H_2O$ ,  $Na_2V_2O_7 \cdot 18H_2O$ ,  $Na_2V_2O_7$ ,  $Na_2VO_4$ ,  $Na_2V_2O_7 \cdot 10H_2O$ ,  $Na_2V_2O_7$ ,  $Na_2V_2O_7 \cdot 30H_2O$  to  $26H_2O$  and  $Na_2V_2O_7 \cdot 12H_2O$ . The Na salts are hydrolyzed,

but the pyrovanadate dissolves without decompn. The color of  $V_2O_5$  gradually changes from yellow to red-brown with addn. of 1 to 3 mols.  $H_2O$ . The following transition points were established: at 23.2°  $Na_2VO_4 \cdot 12H_2O$  is converted into  $Na_2VO_4 \cdot 10H_2O$  and this transformed at 48.5° to  $Na_2VO_4$ ; at 50.0°  $Na_2V_2O_7 \cdot 18H_2O$  is decompd. to  $Na_2V_2O_7$ . The following are the optimal solubilities: at 25° 38.17%  $H_2SO_4$  dissolves 12.48%  $V_2O_5$ ; at 75° 37.56%  $H_2SO_4$  dissolves 11.96%  $V_2O_5$ .  $Na_2SO_4$  does not affect the soly. At 25° 6.8% soln. of  $Na_2O$  dissolves up to 23.06%  $V_2O_5$  and at 75° up to 33.32%. With rise of the concn. of  $Na_2O$  to formation of  $Na_2V_2O_7$ , the soly. rises to a max. of 14.05% at 25° and 22.72% at 75°; anhyd.  $V_2O_5$  is liberated at pH over 6.8. Extn. with acid or alkali followed by neutralization of the soln. is preferable to use of acid or alkali alone and gives a product of 100% purity.

J. G. Tolpin

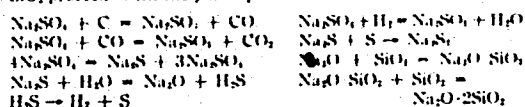
ROPA, A. G.

Ropa, A. G. - "Thermochemical processing of a sulfate furnace mixtures" Trudy Tekhn. Konf-  
tsii inzhnikov stekol. prom-sti, Moscow, 1948, p. 170-74

SO: U-3600, 10 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 6, 1949).

COMMON ELEMENTS		COMMON VARIANTS	
<p>CA</p> <p>Countercurrent method of drying sodium sulfate. M. A. Khachvanyan, A. G. Repn, and E. P. Danil'chenko. <i>Sibilo i Karam</i>, 5, No. 12, 4-8(1948).—Hydration of <math>\text{Na}_2\text{SO}_4</math> during transportation and storage occurs because of absorption of atm. moisture; during this process, the material becomes covered with a surface crust which hinders further hydration. Hydration by absorption of moisture from the atm. proceeds slowly. Drying of <math>\text{Na}_2\text{SO}_4</math> under static conditions proceeds slowly and depends on temp. and depth of layer of material. The dried surface layer hinders the transfer of heat to the inner layers and also the diffusion of moisture to the surface. These difficulties are eliminated in the countercurrent method of drying in which the incoming and outgoing temps. of the air or flue gases are 250-300° and 40-60°, resp. The moist material need not be ground; lumps having a max. size up</p> <p>immediate sepn. of the macerate into 2 layers. The lower layer was discarded and the upper layer was mixed with 1l. <math>\text{CHCl}_3</math>, the sept. <math>\text{CHCl}_3</math> ext. was concd. to dryness in vacuo the residue refluxed twice with 500 cc portions of peroxide free <math>\text{Et}_2\text{O}</math> filtered the pulverized dry residue dissolved in 500 cc of 95% <math>\text{EtOH}</math> treated with a suspension of 20G of freshly pptd. <math>\text{Fe}(\text{OH})_3</math> in 500 cc <math>\text{H}_2\text{O}</math> the mixt stirred 1 hr filtered and the filtrate treated again with <math>\text{Fe}(\text{OH})_3</math> filtered and cond. to dryness in vacuo at a low temp to yield the active cardiac glycoside.</p>		<p>10</p>	
<p>ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>FROM SYNONYM</p>		<p>TO SYNONYM</p>	
<p>101000 01</p>		<p>011101 01 101</p>	

**Reduction of sodium sulfate with solid carbon in silicate systems.** A. G. REPA and E. P. DIANL'CHENKO. *Shteka i Keram.* 6 [9] 10. 147 (1949). --In heating mixtures of  $\text{Na}_2\text{SO}_4$  with 0.5, 1, 2, and 3 moles of C (charcoal) at 750°, 800°, 900°, and 1000°C, the rate of reduction, determined by loss of weight, was found to increase sharply with rising temperature but was relatively little affected by excess C. Loss of weight was proportional to C content up to 2C; further addition of C had little effect. The reduction had a considerable induction period, but by adding tar to the charcoal or several per cent NaS to the mixture, the initial temperature of reduction was lowered to 700°. By heating a mixture of  $\text{Na}_2\text{SO}_4$ ,  $\text{SiO}_2$ , and C and playing steam on the surface of the melt, the  $\text{Na}_2\text{SO}_4$  was completely reduced, apparently by the  $\text{H}_2\text{S}$  formed in the hydrolysis of  $\text{Na}_2\text{S}$ . No reaction was observed in heating mixtures of  $\text{Na}_2\text{SO}_4$  and  $\text{Na}_2\text{S}$  up to 1100°. No reaction was noticed in the case of the dry components  $\text{Na}_2\text{SO}_4$ ,  $\text{Na}_2\text{S}$ , and  $\text{SiO}_2$ , but in the presence of water the  $\text{Na}_2\text{S}$  hydrolyzed and the reaction proceeded. Silicate formation in  $\text{Na}_2\text{SO}_4 + \text{C} + \text{SiO}_2$  proceeds with the participation of water as follows:



The reaction of  $H_2$  and CO in the reduction of  $Na_2SO_4$  indicates that 1 mole of C is sufficient for complete reduction. B.Z.K.

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p><b>New quantitative method of determining rate of solution of <math>\text{SiO}_2</math> in glassmelting.</b> E. P. DANIL'CHENKO AND A. G. REPA. <i>Steklo i Keram.</i>, 7 [8] 10-12 (1950).—To determine the extent of fusion, grind 1 gm. of glass to pass a sieve of 1000 openings per <math>\text{cm}^2</math>, add 50 ml. of 35% <math>\text{H}_2\text{SiF}_6</math>, heat on a water bath at <math>40^\circ\text{C}</math>., raise to <math>50^\circ</math> 10 to 15 min. before the end of the process, filter after 4 hr., wash in order with 100 ml. of boiling water, 6 to 10 ml. of 35% <math>\text{H}_2\text{SiF}_6</math>, and 400 ml. of boiling water, cake, and weigh the residue. Kinetics of solution of sand in glass were studied by preparing a glass of <math>\text{Na}_2\text{O}</math> 22.53, <math>\text{CaO}</math> 11.20, <math>\text{MgO}</math> 4.22, and <math>\text{SiO}_2</math> 61.99%, corresponding to the molecular mixture <math>\text{Na}_2\text{O} \cdot 2\text{SiO}_2</math>, <math>\text{CaSiO}_3</math>, and <math>\text{MgSiO}_3</math>. The glass was free of insoluble <math>\text{SiO}_2</math>. It was powdered and heated with <math>\text{SiO}_2</math> at <math>1350^\circ</math>, and the amount of insoluble <math>\text{SiO}_2</math> was determined. Solution of sand grains during the glassmelting process proceeds vigorously, especially when the alkaline reserve of the medium is high, and then the rate of solution falls. The remaining small quantities of <math>\text{SiO}_2</math> dissolve very slowly; they are very fine and are difficultly noticeable visually. Incomplete solution of the <math>\text{SiO}_2</math> results in nonuniformity of the glassmelt with regard to composition and physical characteristics. Curves of solution of <math>\text{SiO}_2</math> are shown. B.Z.K.</p>																																																			
<p>ASB-3LA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			
STONY DIVISION																										METAL DIVISION																									
STONY DIVISION																										METAL DIVISION																									

*(over)*

Reduction of  $\text{Na}_2\text{SO}_4$  in silicate systems. A. G. REPA AND R. P. DANIL'CHENKO. *J. Applied Chem. (U.S.S.R.)*, 24 [1] 20-27 (1950).--Kinetics of the reduction of  $\text{Na}_2\text{SO}_4$  and  $\text{Na}_2\text{SO}_4 + \text{SiO}_2$  with wood charcoal and of  $\text{Na}_2\text{SO}_4 + \text{SiO}_2$  in streams of  $\text{CO}$  and  $\text{H}_2$  were studied at temperatures up to  $1000^\circ\text{C}$ . (1) Reduction of  $\text{Na}_2\text{SO}_4$ : Up to  $700^\circ$ , combustion of C takes place; source of volatiles) is added. In the absence of volatiles, reduction starts at or above  $850^\circ$ . Rate of reduction increased with temperature and depended only slightly on the content of C in the mixture. There was intensive oxidation of the  $\text{Na}_2\text{S}$  at the moment of complete combustion of C. Rate of oxidation of the  $\text{Na}_2\text{S}$  decreased with time due to increasingly difficult diffusion of air into the melt. (2) Reduction of  $\text{Na}_2\text{SO}_4 + \text{SiO}_2$ : For mixtures thoroughly dried at  $105^\circ$ , the rate and extent of reduction with C increased with temperature; there was stoichiometric agreement between the amounts of  $\text{Na}_2\text{SO}_4$  reduced and the  $\text{Na}_2\text{S}$  formed. For mixtures that were not thoroughly dried,

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

X

the gas phase contained  $H_2S$  and  $SiO_2$  and the melt showed an accumulation of Na silicates. No reduction was observed at  $720^\circ$  in a stream of CO after 2 hr., but reduction started and proceeded smoothly when the CO stream was preceded by an  $H_2$  stream for 20 to 30 sec. Analysis showed 97 to 98% of  $Na_2SO_4$  reduced and 2 to 3% of  $Na_2S$  hydrolyzed by the moisture in the CO stream; soluble  $SiO_2$  corresponded exactly to the amount of hydrolyzed  $Na_2S$ . Hydrolysis of  $Na_2S$  in a stream of  $H_2$  was high, but it could be practically stopped by a strong stream of  $H_2$ . The addition of 5%  $Na_2S$  decreased the induction period in the reduction of  $Na_2SO_4 + SiO_2$  just as for  $Na_2SO_4$ . In mixtures of  $Na_2SO_4 + SiO_2$ , hydrolysis of  $Na_2S$  during the reduction proceeds according to  $Na_2S + H_2O = Na_2O + H_2S$  and  $Na_2S + 2H_2O = 2NaOH + H_2S$ . The  $Na_2O$  or  $NaOH$  reacts with the  $SiO_2$  without the participation of water vapor. The  $Na_2SO_4$  does not produce  $Na_2O$  during the reduction process.

B.Z.K.

A.G. BAPA, E.P. DAMIL'CHENKO

Jul 52

USSR/Chemistry -Silicon Compounds

"Silicate and Glass Formation in the System  $\text{Na}_2\text{CO}_3\text{-SiO}_2$

Zhur. Prikl. Khim., Vol. 25, No. 7, pp. 740-744

In developing a method for investigating silicate and glass formation in the binary system  $\text{Na}_2\text{CO}_3\text{-SiO}_2$ , it was established that the first product of silicate formation is sodium metasilicate. Sodium orthosilicate, formed with an excess of sodium carbonate, is the product of the reaction between  $\text{Na}_2\text{O}\cdot\text{SiO}_2$  and  $\text{Na}_2\text{CO}_3$ , whereas the bisilicate is formed by the inter-action of  $\text{Na}_2\text{O}\cdot\text{SiO}_2$  and  $\text{SiO}_2$ . Glass formation is started by the soln of excess sand in sodium bisilicate.

263 T 43



Repa, A.G.

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Silicate and glass formation in the system sodium carbonate-silica. A. G. Repa and E. P. Danil'chenko, *J. Appl. Chem. U.S.S.R.* 25, 817-21 (1952); *Zhur. Priklad. Khim.* 25, 740-4 (1952).— $\text{Na}_2\text{CO}_3$  and marine sand contg. 99.5%  $\text{SiO}_2$  were thoroughly mixed in various proportions and 8-g. charges were heated for a fixed time and quickly chilled. The cakes were analyzed for unreacted  $\text{SiO}_2$  by dissolving the reacted portion in 35%  $\text{H}_2\text{SiF}_6$  and weighing the residue. The first product was shown to be  $\text{Na}_2\text{O} \cdot \text{SiO}_2$  (I). Sodium orthosilicate is formed by reaction of I and  $\text{Na}_2\text{CO}_3$ . Sodium disilicate is formed by reaction of I and  $\text{SiO}_2$ . Glass formation starts by the soln. of excess  $\text{SiO}_2$  in sodium disilicate. At  $1350^\circ$  the volatile material leaves within 4 min. The excess  $\text{SiO}_2$  is dissolved in about 30 min.

Don T. Cromer

MF

Repa, A. G.

3

Solubility of copper in nitric acid. A. G. Repa and L. M. Gushayina. *J. Appl. Chem. U.S.S.R.* 25, 1277-82 (1952) (Engl. translation); *Zhur. Priklad. Khim.* 25, 1277-82 (1952).—The mechanism of the soln. of metallic Cu in a wide range of  $\text{HNO}_3$  concns. was investigated. The soln. of Cu in a rotating disk and under stationary conditions was measured. The primary action of Cu with  $\text{HNO}_3$  is one of Cu oxidation to  $\text{CuO}$ ,  $\text{Cu} + \text{NO}_3 = \text{CuO} + \text{NO} + 23.68$  cal. In  $\text{HNO}_3$  free from traces of  $\text{NO}_2$ , Cu does not dissolve until the  $\text{HNO}_3$  is protected from decompn. The Cu oxidation heat,  $Q$ , activates  $\text{HNO}_3$  mols. or  $\text{HNO}_3 + Q = \text{HNO}_3^*$ . However, this amt. of heat is insufficient for the decompn. of  $\text{HNO}_3$ . The activated  $\text{HNO}_3^*$  upon reaction with  $\text{HNO}_3$  produces new active centers in the form of  $\text{NO}_2$  for oxidizing the Cu, according to the equation  $\text{HNO}_3^* + \text{HNO}_3 = \text{H}_2\text{O} + 2\text{NO}_2 + 14.00$  cal. Only in concd. solns. does  $\text{NO}_2$  exist in the free form. Thus, for dil. solns. (up to 35%  $\text{HNO}_3$ ) an induction period is observed for the soln. of the Cu. The Cu oxidation heat causes a heating of the dissolving sample, and the heat of  $\text{CuO}$  soln. in  $\text{HNO}_3$  acts analogously. The role of the metal surface is that of activating the  $\text{HNO}_3$  mols. Rotation of the Cu sample leads to a useless dissipation of surface heat. Thus, the chain mechanism for the soln. of Cu in  $\text{HNO}_3$  proceeds as follows: (1)  $\text{Cu} + \text{NO}_3 = \text{CuO} + \text{NO} + Q$ , (2)  $\text{CuO} + 2\text{HNO}_3 = \text{Cu}(\text{NO}_3)_2 + \text{H}_2\text{O} + Q'$ , (3) chain development by  $\text{Cu} + \text{NO}_2 = \text{CuO} + \text{NO} + Q''$ , (4)  $\text{HNO}_3$  at the metal surface is activated by  $\text{HNO}_3^*$ , (5)  $\text{HNO}_3^* + \text{HNO}_3 = \text{H}_2\text{O} + 2\text{NO}_2 + Q'''$ . Chain breaking occurs as a result of volatilization or useless dissipation of energy from the reaction products. Thus, with an increase in the concn. of  $\text{HNO}_3$ , the  $\text{HNO}_3$  content decreases; this results in a break in chain development concurrent with surface oxidation proceeding so rapidly under the action of the  $\text{NO}_2$  mols. present that the metal surface is covered with a thick film of  $\text{CuO}$ . This produces a sharp decrease in the soln. reaction rate. The induction period, the inversion of the Cu soln. kinetic curves, the inhibiting effect of impurities, and the aging effect of  $\text{HNO}_3$  solns. are all readily explained by the proposed scheme. Herbert Liebeskind

Repa, A. G.

✓ Kinetics of glass formation. A. G. Repa (*Glass & Ceramics, Moscow*, 1953, 10, No. 1, 23—24; *ibid.*, 1953, 30, 37—38).—The undissolved  $\text{SiO}_2$  in glass melts was estimated by treatment of the powdered samples with 35—40% aq.  $\text{H}_2\text{SiF}_6$  which dissolves only the glass phase. Dissolution of the  $\text{SiO}_2$  was rapid during the first 6 min. at  $1250^\circ$  but was not completed in 48 min. The dissolution at  $1350^\circ$  was rapid for the first 4 min. and was complete in 30 min.  $\text{SiO}_2$  dissolved more rapidly in  $\text{Na}_2\text{SiO}_3$  than in  $\text{Na}_2\text{Si}_2\text{O}_7$  primarily because of the higher  $\eta$  of the latter. A relationship was established between the rate of dissolution of  $\text{SiO}_2$ ,  $\eta$  and the ratio  $\text{SiO}_2/\text{Na}_2\text{O}$ .  
J. A. SUGDEN.

REPA, A. G.

Chemical Abstracts  
May 25, 1954  
Glass, Clay Products

6

Kinetics of glass formation. A. G. Repa. *Zhur. Priklad. Khim.* 26, 475-81 (1953); cf. *C.A.* 48, 635i. — The amts. of quartz sand not dissolved in the silicate mass is analyzed by weighing the residue of a finely crushed sample treated with  $H_2SiF_6$ . The amt. of dissolved  $SiO_2$  sand is plotted as a function of time and temp. for solns. in window glass (at 1350 and 1450°),  $Na_2SiO_3$  (1300 and 1000°), and  $Na_2Si_2O_5$  (1350 and 1000°). After an initial steep rise in the 1st-3rd min. the curve flattens and the obtained concn. is lower at the 2nd temp. than at the first. It is assumed that in the  $Na_2O-SiO_2$  mixt.  $Na_2SiO_3$  is the primary product of silicate formation. Further soln. of glass increases viscosity ( $\eta$ ) considerably and thus decreases the diffusion coeff. An equation is derived  $d[SiO_2]_{sol}/dt = K_1(SiO_2/Na_2O)/\eta(c) = k[Na_2O/SiO_2]^2$ , where  $K_1$  is a coeff. contg. the surface area of the  $SiO_2$  grains. The time  $t$  of complete soln. of  $SiO_2$  in  $Na_2SiO_3$  is given by  $t = k_0[SiO_2]^2/[Na_2O]^2$ . The kilns should be constructed in a manner to counteract the rising of large  $SiO_2$  grains to the surface of the melt.

S. Pakswer

10-12-54  
mle

Accelerating the melting of glass by using chemically active additives. I. D. Rykachinski, L. I. Bunceva, V. V. Polivak, A. G. Repa, E. P. Danilchenko, and A. N. Alan-  
as'ev. *Izvestiya Akad. Nauk SSSR* 1953, No. 32, 3-16; *Referat. Zhur.*,  
*Khim.*, 1954, No. 18745. The effect was studied of F and Ti compds., B, Ba, Mn, and Al oxides, NH<sub>4</sub> phosphates, chlorides, and some combined additives on the melting of aluminomagnesia charge of vertically drawn sheet glass. The various addns. affected the processes at the different stages of glassmaking. In addn. to standard procedures, specially devised tests were also used; these included detn. of the rate of vitrification by dissecn. in H<sub>2</sub>SiF<sub>6</sub>, detn. of temp. of the appearance of the vitreous phase from the appearance of luminescence, a method based on the ability of some glasses contg. admixts., e.g. U, to luminesce when irradiated by ultraviolet light. F and Ti compds., Ba sulfate, and Ba carbonate appreciably hasten the melting of glass. The industrial utilization of these additives is outlined.  
M. Hoseli

REPA A.G.

2

✓ Reactions of silicate formation. A. G. Repa. J. Appl.  
Chem. U.S.S.R. 27, 1121-9 (1954) (Engl. translation).  
C.H. See C.A. 49, 7042c. B.M.R.

MA  
RW

REPA, A.G.

Reaction of glass formation. A. G. REPA. Zhur. Priklad. Khim., 27 [11] 1184-93 (1954).—The study dealt with the reaction of silicate formation between quartz sand and  $\text{Li}_2\text{CO}_3$ ,  $\text{Na}_2\text{CO}_3$ ,  $\text{K}_2\text{CO}_3$ ,  $\text{MgCO}_3$ ,  $\text{CaCO}_3$ ,  $\text{SrCO}_3$ , and  $\text{BaCO}_3$ . In investigating the thermal decomposition of carbonates, it was found that only  $\text{MgCO}_3$  and  $\text{CaCO}_3$  decomposed comparatively easily; the temperature of decomposition of carbonates increased with increasing atomic number of the element. The resulting oxides react with silica. At first, monosilicates form. Subsequent solution of quartz sand grains in monosilicates is the process of glass formation, which proceeds at low speed in solid phases. There is also diffusion of alkaline and alkaline-earth metals toward the surface of sand grains and secondary formation of more basic silicates. The resulting silicates react with the carbonates, forming new silicates. These secondary reactions proceed at low temperatures in the case of Na disilicate and at higher temperatures in the case of the monosilicate. B.Z.K.

AID P - 3567

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 4/20

Author : Repa, A. G.

Title : Oxygen potential of glasses

Periodical : Zhur. prikl. khim., 28, 7, 694-699, 1955

Abstract : The oxygen potential of glasses may be used as a basis for "composition-characteristic" diagrams for glasses of various compositions. It also may serve as a scientific criterion for replacing one oxide in the glass by another. Four tables, 3 diagrams, 7 references, all Russian (1947-1955).

Institution : None

Submitted : 0 26, 1953



KUBAT, Jiri, inz.; REPA, Josef

Increasing the output of medium presses. Stroj vyr 13 no.4:  
284-285 Ap '65.

1. Research Institute of Handling of Materials, Prague.

**The structure of smectic mesophase.** D. G. Kim and A. N. Krep'eva. *Trans. Leningrad Ind. Inst. No. 7, Sect. Phys. Math. No. 4, 3-16 (in English, 17)(1937).* The geometric characteristics of the structure of smectic mesophase are considered. Large, sharply outlined samples of the "polygonal" texture were obtained by the action of an a. c. upon the smectic phase during its formation by cooling of an amorphous liquid. The approximations of the "singular" lines observed in the measurements of the smectic phase by Friedel and Grandjean (cf. *Bull. soc. miner.* 33, 409(1930)) were repeated with great accuracy. These measurements confirmed the existence of ellipses and hyperbolas the planes of which are mutually perpendicular, the vertices of the latter lying at the focus of the former. A method of derivation of the equation for the family of cycloids is given, based on the orthogonality of the surface in the relation of the optical axes of the smectic structure. The structure of the smectic phase is considered as a series of continuous unimol. layers, passing from one family of cycloids into another. The Oseen objection (cf. C. A. 23, 2085) to the Born theory of the anisotropic liquids is overcome by the expl. data, which disclosed that the dipole moment is directed perpendicularly to the length of the smectic liquid mol.

A. A. Podgorny

A. A. Podgornyy

PROCESSIES AND PROPERTIES INDEX																									
<p><i>12</i></p> <p><i>A-1</i></p> <p><b>Action of the electric field on the amorphous meso-phase. V. FERNANDEZ and A. RUIZ (Acta Physicochim. U.R.S.S., 1955, 4, 91-98).</b>  The production of focal-conical forms in the amorphous meso-phase of <i>N</i>-p-oxo-benzoate and -cinnamate has been studied. The elongated droplets produced near the temp. of transition to the amorphous liquid state orient themselves perpendicularly to weak electric fields, but turn through 90° when the field strength is increased. With steadily increasing temp. and field strength the groups arrange themselves in regularly oriented series, and finally melt or explode to form the amorphous liquid. It is suggested that the orientation in weak electric fields is due to the orientation of dipoles, whilst in strong fields the effect of the induced polarization is dominant. R. S.</p>																									
A.S.B.S.A. METALLURGICAL LITERATURE CLASSIFICATION																									

*Repa, L. A.*

The cool-flame oxidation of propane. L. A. Repa and V. Ya. Shtern. *Doklady Akad. Nauk S.S.S.R.* 91, 309-12 (1953).—The cool-flame oxidation of a mixt. of propane and oxygen was studied at 280° and an initial pressure of 420 mm. The rate of pressure increase with time was measured. Three cool flames were observed at  $t = 100$  sec., 122 sec., and 140 sec. The sharp pressure increases at these points are attributed to temp. rises and not to the stoichiometry of the reaction. A plot of the log of the pressure increase vs. time was linear. The products included formaldehyde, acetaldehyde, peroxides (70%  $H_2O_2$  and 30% org. peroxides), MeOH, propylene,  $C_2H_4$ , H, CO, and  $CO_2$ . The aldehydes and peroxides increased in concn. until the 3rd cool flame was reached. The aldehyde concns. remained const. from this point on, but the peroxide concn. decreased. It is concluded that the results here are similar to those obtained for higher-temp. (360°) oxidation (C.A. 45, 6907f). Both processes involve simultaneous oxidation and cracking. The ratios of oxidation products to cracking products for the 2 temps. are in good agreement, allowing for the temp. differences. The product distribution for the two temps. is very similar. In both cases the max. rate of pressure change is reached before the aldehyde concn. reaches its const. value and before the max. peroxide concn. is reached.

Joseph B. Levy

*pm*

LFH

0000

REPA, L.A.  
USSR/Chemistry

Card 1/1

Authors : Repa, L. A., and Shtern, V. Ya.

Title : Mechanism of oxidation of hydrocarbons in gaseous phase. Part 5.-  
Cold flame oxidation of propane

Periodical : Zhur. Fiz, Khim. 28, Ed. 3, 414-421, March 1954

Abstract : Investigated was the kinetics, according to pressure and according  
to products of cold flame oxidation, of a mixture  $C_3H_8 + O_2$  at  
 $T = 280^\circ$  and  $p_{in} = 420$  mm (case of three cold flames). A comparison  
with a previously investigated upper temperature oxidation of  
upper temperature reactions. All obtained data gave an idea about  
the insignificant role of the cold flame in the general process of  
slow oxidation of propane. Eight references. Tables, graphs.

Institution : The M. V. Lomonosov State University, Moscow, U.S.S.R.

Submitted : April 18, 1953

REPA, V. G.

5602 Repa, V. G. opyt. izgotovleniya stolyarnykh plit v arteli  
chervonoderevets l'vovskogo oblmebel'promsoyyza. m., koiz, 1954. 11s. s chert  
20 sm. (tsentr. sovet promysl. kooperatsii sssr. tekhn. upr. obmenprizvod.-  
tekhn. opytom. inform. listok. 66). 1,000 ekz. bespl.-avt. ukazan v kontse  
teksta.-

(54-15082 zh) 674.2

SO: Knizhnaya Letopis', Vo., 1, 1955

MASALOV, S.A.; REPA, Yu.T., SITNIKOV, E.D.

Diffraction of H-polarized plane electromagnetic wave on a plane  
grid with a dielectric. Radiotekh. i elektron. 9 no.12:2071-2077  
D '64 (MIRA 18:1)

L 17848-65 EWT(1)/EEC(t)/EEC(b)-2 ASE(a)-5/AFWL/SSD(a)/SSD/ESD(gs)/ESD(t)  
ACCESSION NR: AP5000445 S/0109/64/009/012/2071/2077

AUTHOR: Masalov, S. A.; Repa, Yu. T.; Sitnikov, E. D.

TITLE: Diffraction of an H-polarized plane electromagnetic wave by a plane grating with a dielectric

SOURCE: Radiotekhnika i elektronika, v. 9, no. 12, 2071-2077

TOPIC TAGS: diffraction, diffraction grating, plane wave diffraction

ABSTRACT: Diffraction by perfect-conductance rectangular cross-section bars forming a grating or grill, with a dielectric material between them, is theoretically considered. A general solution in the form of two infinite sets of an algebraic equation is given; their unknowns are numerical coefficients in Fourier series. Finite-order sets are isolated and their approximate solutions, obtained on a digital computer, are reported. The problem is solved for a normal-incidence case; vector  $\vec{H}$  is oriented along the bars; no limitation is imposed on

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L 17848-65

ACCESSION NR: AP5000445

the grill parameters or ratio of the wavelength to the grill period. Transmission coefficients plotted against  $k = 2\pi/\lambda$  are presented. "The authors wish to thank V. P. Shestopalov for his direction of the work." Orig. art. has: 5 figures and 25 formulas.

ASSOCIATION: none

SUBMITTED: 30Sep63

ENCL: 00

SUB CODE: OP, DP, EM

NO REF SOV: 001

OTHER: 000

Card 2/2

L 8942-66 EWT(1)/ETC/EPF(2)-2/EWG(3)/EWA(4) IJP(5) AT/JM

ACC NR: AT5022313

SOURCE CODE: UR/3137/64/000/074/0001/0008

AUTHOR: <sup>44, 55</sup> Repalov, N. S.; <sup>44, 55</sup> Khizhnyak, N. A.

ORG: <sup>44, 55</sup> Academy of Sciences UkrSSR, Physicotechnical Institute (Akademiya nauk UkrSSR, Fiziko-tehnicheskii institut) <sup>65</sup> <sup>3+1</sup>

TITLE: <sup>21, 44, 55</sup> Longitudinal oscillations in multivelocit plasmoids <sup>21, 44, 55</sup>

SOURCE: AN UkrSSR. Fiziko-tehnicheskii institut. Doklady, no. 074/P-028, 1964.  
Prodol'nyye kolebaniya v mnogoskorostnom plazmennom puchke, 1-8

TOPIC TAGS: plasmoid, plasma beam, klystron <sup>25</sup>

ABSTRACT: Thermal dispersion in klystrons is studied to determine the modulating properties of beam bunching. The appropriate equation of motion and Maxwell's equations are written for the ion and electrons for the collisionless case. By selecting particles within a small velocity interval, moving through modulating grids, Euler's equation can be written and a non-linear system results. Approximation methods are used to show that initial thermal dispersion introduces a multiplying factor which lowers the value of the current density of the beam. The multiplying factor is determined for the case of a step function distribution. The assumption of a Maxwell distribution is also discussed. The multiplying factor is shown to have a meaning of coherence in velocity space and it is determined that its structure is

Card 1/2

L 8942-66

ACC NR: AT5022313

similar to the coherence factor for the interacting spatially distributed beams.  
Orig. arg. has: 16 equations.

SUB CODE: 20/      SUBM DATE: 00/      ORIG REF: 005/      OTH REF: 000

OC  
Card 2/2

L 16930-66 EWT(1)/T IJP(c)

ACC NR: AT6002496 SOURCE CODE: UR/3137/64/000/070/0001/0013

AUTHOR: Sinel'nikov, K. D.; Khizhnyak, N. A.; Repalov, N. S.; Zeydlits, P. M.;  
Yamnitskiy, V. A.; Azovskaya, Z. A.

ORG: none

21,4415  
TITLE: Injection of particles through an acute-angled magnetic trap into a mirror trap with increasing fields of the mirrors

SOURCE: AN UkrSSR. Fiziko-tekhnicheskii institut. Doklady, no. 70, 1964. Inzhektsiya chastits v zerkal'nyu lovushku s narastayushchim polem v probkakh cherez magnitnyu lovushku ostrougol'noy geometrii, 1-13

TOPIC TAGS: magnetic mirror machine, ~~particle trapping~~, magnetic trap, computer calculation, ~~charged particle~~

ABSTRACT: The authors investigate the passage of charged particles injected through an end slit parallel to the axis of the magnetic field through an acute-angled magnetic trap. A general introduction of magnetic mirror effect is followed by a theoretical study of the effect of acute-angled field geometry on the eccentricity of particles passing through the zero field plane, and the filling of an increasing field mirror trap by particles passing

Card 1/2.

L 16930-66

ACC NR: AT6002496

through the acute-angled trap. The paper gives 1) the conditions for the passage of particles with large and small displacement of the particle rotation center from the magnetic axis; and 2) the results of the numerical calculations of the trap filling carried out on the UMSHn electronic computer. Curves presented depict the conversion of longitudinal into transverse velocity as a function of the injection-to-final-radius ratio, and as a function of the initial radial velocity, and particle trapping during a slow field increase. The results show that the method for particle trapping presented is technologically feasible. Acute-angled traps with higher field harmonics are not studied. Orig. art. has: 21 formulas and 8 figures.

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 002

Card 2/2

L 23580-66 EPF(n)-2/EWT(1)/ETC(f)/EWG(m) IJP(c) AT/GS  
ACC NR: AT6008838 SOURCE CODE: UR/0000/65/000/000/0005/0018

AUTHOR: Sinel'nikov, K. D.; Khizhnyak, N. A.; Repalov, N. S.; Zeydlits, P. M.;  
Yamnitskiy, V. A.; Azovskaya, Z. A.

ORG: none

TITLE: Injection of particles into a mirror trap with an increasing field through a magnetic cusp configuration

SOURCE: AN UkrSSR. Magnitnyye lovushki (Magnetic traps). Kiev, Naukova dumka, 1965, 5-18

TOPIC TAGS: ~~mirror~~ <sup>magnetic</sup> trap, plasma injection, particle trajectory, <sup>magnetic mirror</sup>

ABSTRACT: The behavior of a plasma in a magnetic mirror trap formed by particles injected through a cusp configuration is studied. The particles selected for investigation are those which at injection have curvature radius of less than 71% of the Larmor radius, i. e. those which proceed without reflection into the magnetic mirror region. The eccentricity of the particle trajectory (passing through the zero field plane) due to the cusp configuration is analyzed. Two competing processes become evident; one tends to establish an E-layer as in the Astron machines and another tends to fill the axial region of the mirror trap. The analysis is further extended to determine the accumulation in the magnetic mirror trap of particles passing through a

Card 1/2

L 23580-66

ACC NR: AT6008838

smooth cusp field having only a zeroth harmonic. The conversion of longitudinal energy into transverse particle energy is determined as a function of the initial radial distance of the trajectory from the magnetic axis. The number of particles trapped indicates that construction of an experimental machine is feasible provided the proper magnetic field configuration is used. It is estimated that a field with high harmonic components would trap particles with broader initial velocity and injection angle parameters. Orig. art. has: 7 figures, 10 formulas.

SUB CODE: 20/      SUBM DATE: 20Oct65/      ORIG REF: 002/      OTH REF: 000

Card 2/2

PB

64833-67 EWICL 13P(C) (N)  
ACC NRT AT6020450

SOURCE CODE: UR/0000/65/000/000/0186/0195

AUTHOR: Repalov, N. S.; Khizhnyak, N. A.

ORG: none

TITLE: Longitudinal oscillations in multivelocit plasma beam

SOURCE: AN UkrSSR. Vzaimodeystviye puchkov zaryazhennykh chastits s plazmoy (Interaction of charged particle beams with plasma). Kiev, Naukova dumka, 1965, 186-195

TOPIC TAGS: plasma beam, motion equation, Euler equation, harmonic analysis, Debye length

ABSTRACT: One-dimensional oscillations in a compensated plasma beam with an arbitrary distribution function is studied. The equations of motion and fields and written for a collisionless plasma with a set of electrons traversing modulating grids. The ions are treated as a background charge compensating for the space charge. It is shown that the system can be described more simply by use of the Euler equation when the electron velocity spread is small. The equations are solved by an indirect method which is an extension of Bogolyubov's method, using Lagrange variables. This approach, described in considerable detail, leads to an expression for corrections to the initial current and density harmonics. The latter turn out to be coherence factors. This approach is applied to an example of Maxwellian distribution, where the coherence factors in the

Card 1/2



L 04832-67 EWT(1) LJP(c) AT/GD

ACC NR: AT6020451

SOURCE CODE: UR/0000/65/000/000/0195/0203

AUTHOR: Repalov, N. S.; Khizhnyak, N. A.

ORG: none

TITLE: Resonance propagation of an electron beam in a medium with a layered dielectric

SOURCE: AN UkrSSR. Vzaimodeystviye puchkov zaryazhennykh chastits s plazmoy (Interaction of charged particle beams with plasma). Kiev, Naukova dumka, 1965, 195-203

TOPIC TAGS: charged particle, electron beam, Lagrange equation, space charge

ABSTRACT: The demodulating mechanism of the space charge on the beam moving through a medium with a layered structure is investigated. The problem is treated in the hydrodynamic approximation. It is further assumed that the dielectric is transparent with respect to the beam particles and produces no dispersion. The dielectric boundaries are normal to the beam. The static fluctuations of beam electrons are compensated by an ion background moving with constant velocity. The motion is described in Lagrangian coordinates. The nonlinear nature of the equation permits only the consideration of the case of an infinitesimal modulation amplitude. Bogolyubov's method is employed to clarify the effect of nonlinearities in the case of the medium with one change in the dielectric constant (two-layer dielectric). It is found that resonance effects under some conditions lead to an unstable increase in the modulating amplitude. The restric-

Card 1/2

04832-67

ACC NR: AT6020451

tion of the problem to the region near the instability simplifies the equation under consideration. This solution reduces to that for beam bunching in klystrons where it is assumed that both dielectric layers have the same dielectric constant. Orig. art. has: 2 figures, 19 formulas.

SUB CODE: 20/      SUBM DATE: 11Nov65/      ORIG REF: 005/      OTH REF: 001

Card 2/2 afs

L 31285-65 EWT(d)/EWT(1)/EEG(b)-2/EWA(h) Pn-4/Pac-4/Peb/Pi-4/Pj-4

ACCESSION NR: AP5005348

S/0109/65/010/002/0334/0340

AUTHOR: Repalov, N. S.; Khizhnyak, N. A.

47  
46  
8

TITLE: Propagation of modulated beams in periodic media

SOURCE: Radiotekhnika i elektronika, v. 10, no. 2, 1965, 334-340

TOPIC TAGS: electron beam, klystron 25

ABSTRACT: A single-variable problem of the interaction of a field-compensated electron beam with a laminated dielectric whose boundaries are normal to the beam is considered. A dispersion equation describing the motion of the modulated beam is set up and solved in a hydrodynamic approximation. It is demonstrated that, under certain conditions, a constant-density-and-velocity beam may become unstable, and small fluctuations of the density and velocity may propagate with increasing amplitudes. Formulas for the current density under resonance conditions are developed; the excitation of fairly high current-density waves by a

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L 31285-65

ACCESSION NR: AP5005348

small amplitude of the modulating voltage becomes possible. The possibility of using the above mechanism for compensating the space-charge effects in a klystron buncher is considered. "The authors wish to thank A. A. Akmentyn'sh for his useful comments." Orig. art. has: 3 figures and 38 formulas.

ASSOCIATION: none

SUBMITTED: 02Jan64

ENCL: 00

SUB CODE: EC, NP

NO REF SOV: 005

OTHER: 003

Card 2/2

L 18840-66 EWT(1) IJP(c) GS

ACC NR: AT5028589

SOURCE CODE: UR/0000/65/000/000/0388/0402

AUTHOR: Sinel'nikov, K. D. (Academician AN UkrSSR); Khizhnyak, N. A.; Repalov, N. S.; Zeydlits, P. M.; Yamnitskiy, V. A.; Azovskaya, Z. A. 53  
B+1

ORG: none

TITLE: Investigation of the charged particle motion in picket fence magnetic traps 21.44.55

SOURCE: ~~III~~ Konferentsiya po fizike plazmy i problemam upravlyayemogo termoyadernogo sinteza. 4th, Kharkov, 1963. Fizika plazmy i problemy upravlyayemogo termoyadernogo sinteza (Physics of plasma and problems of controllable thermonuclear synthesis); doklady konferentsii, no. 4, Kiev, Naukova dumka, 1965, 388-402

TOPIC TAGS: magnetic trap, relativistic particle, plasma charged particle, particle trajectory, particle motion, magnetic field

ABSTRACT: The properties of charged particle motion in magnetic traps of the "picket fence" and "magnetic wall" (with negative field curvature) types are considered and their trajectories determined by numerical integrations. The traps are characterized by axial symmetry and small angles between field lines. The analytical form of the fields is described by the expansion of the scalar magnetic potential

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L 18840-66

ACC NR: AT5028589

in Bessel functions, retaining the first term only. Since both curl and divergence of the field within magnetic coils vanish, the magnetic intensity for "picket fence" traps (easily generalized to other geometries) is determined and analytical expressions are derived for two extreme cases of extended and compressed traps. A method for determining the fields in the throat area of the trap of a given radius is also given. Application of the Lagrangian and Hamiltonian of the charged particle motion and the utilization of the cyclic azimuthal coordinate of axisymmetric fields leads to derivation of a potential in which a particle moves and determines the extent of regions of particle confinement. It is found that there always exists a region through which particles can escape. The escape criteria and a classification of transmitted and reflected particles in which the gyroradius of the particles, and hence mass, play a strong role are presented. Additional classification relative to the initial particle parameters is also discussed. In particular, it is shown that the behavior of particles injected in a direction opposite to the system axis is similar to that of those injected parallel to the axis, excepting that the initial radial separation of the former from the axis is greater. Representative trajectories are graphed. The discussion is further generalized to the relativistic particles for which presently realizable magnetic confinement schemes require very strong fields. Orig. art. has: 17 figures, 34 formulas.

SUB CODE: 20/ SUBM DATE: 20May65/ ORIG REF: 002/ OTH REF: 002

Card 2/2 vmb

L 22422-66 EWT(1)/EPF(n)-2/EWG(m) IJP(c) AT  
ACCESSION NR: AP6006758 SOURCE CODE: UR/0185/66/011/001/0012/0019  
AUTHORS: Repalov, M. S. (Repalov, N. S.)  
ORG: Physicotechnical Institute AN UkrSSR (Fiziko-tekhnichnyy instytut AN URSR)  
TITLE: The nonlinear <sup>21.44.55</sup>theory of a plasma beam in a periodic structure  
SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 11, no. 1, 1966, 12-19  
TOPIC TAGS: plasma beam, plasma instability, nonlinear plasma, dielectric waveguide, plasma resonance, plasma oscillation  
ABSTRACT: The author considers the propagation of a velocity-modulated beam in a periodic structure consisting of alternating dielectric layers with different dielectric permittivities and different thickness (a and b). It is found that for a given relation between the beam parameters and the periodic structure the state of the beam of some constant density and velocity becomes unstable and arbitrarily small perturbations propagate in such a system with amplitudes which become finite and independent of the initial modulation. This instability is due to the resonance interaction of the plasma oscillations of the beam electrons and the electrostatic wave due to these oscillations. The resonance conditions and the width of the re-  
Card 1/2

L 22422-66  
ACCESSION NR: AP6006758

sonance region are obtained for  $a = b$ . The equation for the stationary amplitudes is obtained for the resonance region, and the time of establishment of the steady-state regime is found. At resonance the beam oscillations become appreciable. An expression is derived for the current density, and the possibility is considered of using resonance effects in a periodic structure for compensation of the defocusing effect of space charges. The author thanks M. A. Khyzhnyak for constant interest and a number of valuable hints. Orig. art. has: 1 figure and 19 formulas.

SUB CODE: 20/ SUBM DATE: 11Feb65/ ORIG REF: 006/

Card 2/2 *He*



I 23105-66 EWT(1)/ETC(f)/EPF(n)-2/EWG(m) LIP(c) AT  
ACC NR: AP6007067 UR/0057/66/036/002/0219/0224

AUTHOR: Repalov, N.S.

ORG: None

TITLE: On the theory of the excitation of ionic plasma oscillations by electronic Langmuir waves

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 2, 1966, 219-224

TOPIC TAGS: plasma electromagnetic wave, plasma electron oscillation, plasma ion oscillation, nonlinear plasma,

ABSTRACT: In this paper there is presented an attempt to account for the known excitation of low frequency ionic oscillations in a plasma by high frequency electronic plasma waves. The one-dimensional oscillations of the plasma electrons excited by a low-amplitude longitudinal traveling electromagnetic wave are treated in a "small nonlinearity" approximation by a technique of Bogolyubov with the ion motions neglected. The low frequency motions of the ions excited by the electron oscillations are then calculated after first averaging out the high frequency ion motions. It is shown that when the frequency of the external wave is close to a harmonic of the electron Langmuir frequency and the amplitude of the wave is close to one of a discrete set of "resonance" values, there develop beats that can excite low frequency

Card 1/2

UDC: 533.9

L 23105-66

ACC NR: AP6007067

ionic oscillations. Resonance transfer of energy from the electrons to the ions can also occur for other values of the external wave amplitude provided the frequency of the external wave is sufficiently close to a certain resonance value depending on the amplitude; in this case, however, the efficiency of the energy transfer is low. Orig. art. has: 29 formulas.

SUB CODE: 20

SUBM DATE: 06May65

ORIG. REF: 006 OTH REF: 001

Card 2/2 *OK*

REMAN, F.

Turning over daily receipts without a cashier. Avt.transp. 39  
no.10:51 0 '61. (MIRA 14:10)  
(Saransk--Motorbus lines--Management)

3. JAM. 1, V.

Problems of potato production and consumption in Yugoslavia. p. 111.  
NOVA PROJEKCIJA. (Zveza drustev inzenirjev in tehnikov IRS)  
Ljubljana. Vol. 7, no. 2, Apr. 1956.

SOURCE: East European Accessions List, (EEAL), Library of Congress,  
Vol. 5, no. 12, December 1956

REPAS, A.; BOSKOVIC, B.; DEZELIC, M.

On the hypnotic effect of helicine-barbiturates and  
tetraacetylsalicin-barbiturates. Bul sc Youg 8 no. 1/2:  
1-2 F-Ap '63.

1. Farmakoloski institut Medicinskog fakulteta univer-  
zitet Sarajevo.
2. Clan Redakcionog odbora, "Bulletin scientifique"  
(for Dezelic).

DEZELIC, Mladen, dr.; REPAS A.

Condensation products of helicin. Pt.5. Glasnik hemicara BiH  
11:5-11'62.

Some combinations of tetraacetylsalicin with barbiturates.  
13-17.

1. Laboratorij za organsku hemiju i biohemiju, Hemijski  
institut Prirodno-matematickog fakulteta u Sarajevu.
2. Redacteur en chef, "Glasnik Društva hemicara i tehologa  
SR Bosne i Hercegovine" (for ~~Dezelic~~).

DEZELIC, Mladen, dr. redovni profesor (Sarajevo, Jug Bogdanova 7); REPAS,  
Anica, dozent

Glucosides in the bark and leaves of *Populus tremula*. Tehnika Jug  
19 no.6:Suppl: Hemindustrija 18 no.6:1124-1126 Je 1964.

1. Faculty of Natural Sciences and Mathematics, University  
of Sarajevo, Sarajevo.

DEZELIC, Mladen, dr.; GRUJIC-VASIC, J.; REPAS. A.

Metallic salts of esculin and fraxin, and salts of their aglycons. Glasnik hemicara BiH 11:25-30 '62.

1. Hemijski institut, Medicinski fakultet, Univerzitet, Sarajevo.
2. Redacteur en chef, "Glasnik Drustva hemicara i tehnologa SR Bosne i Hercegovine" (for Dezelic).



VARGA, Karoly; REPAS, Laszlo

Experiences with radiographic tests in foundries. Koh lap:Suppl.:  
Ontode 14 no.8:185-191 Ag '63.

1. Orszagos Atomenergia Bizottsag Izotop Intezete.

5076

Z/009/60/010/05/005/040

R112/R153

5.3600

AUTHORS: M. Repáš and J. Pschera

TITLE: Preparation of Anhydrous Ethylene Chlorhydrine<sup>1</sup>

PERIODICAL: Chemický Průmysl, Vol 10, 1960, Nr 5, pp 238-240

ABSTRACT: The authors present a study of the laboratory preparation of anhydrous ethylene chlorhydrine from ethylene oxide and hydrochloric acid. They have adopted the preparation in the liquid phase and used ethylene chlorhydrine, the final reaction product as solvent, utilising the good solubility of HCl in that medium. They have studied the effect of temperature and concentration of reactants on the conversion of ethylene oxide and the formation of byproducts. For the study of temperature effects on yields, equimolar ratios of ethylene oxide and HCl were chosen. It was seen that a 92.5% conversion was obtained at 30 °C. At higher temperatures yields of ethylene chlorhydrine decreases rapidly while the formation of byproducts increases. Results of this series of experiments are summarized in graphs. Another series of experiments included the effect of varying proportions of reactants on yields. An excess of HCl suppresses the formation of byproducts, equilibrium being reached at

Card  
1/2

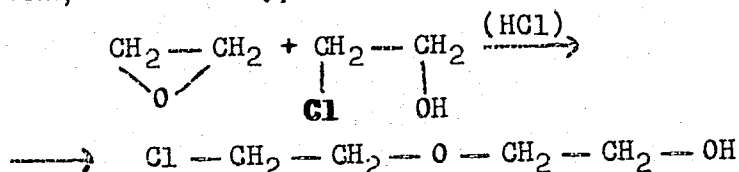
80370

Z/009/60/010/05/005/040

E112/E153

Preparation of Anhydrous Ethylene Chlorhydrine

50% excess. An excess of ethylene oxide, on the other hand, enhances byproduct formation, according to equation



The authors have also studied the effect of batch sizes on yields and the effect of refrigeration arrangements on the efficiency of conversion.

Card  
2/2

There are 4 figures and 5 references, of which 2 are English, 1 French, 1 German and 1 Czech.

ASSOCIATION: Výzkumný ústav pre petrochémiu, Nováky  
(Research Institute for Petrocarbon Chemistry, Nováky)

SUBMITTED: October 12, 1959

S/081/63/000/002/050/088  
B171/B102

AUTHORS: Repás, Milan, Mistrík, Edmund Juraj, Pschera, Jifi  
TITLE: Liquid- phase-method and plant for continuous preparation of ethylene chlorohydrin from ethylene oxide and hydrogen chloride  
PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1963, 401, abstract 2N23 (Czechosl. patent 100737, Aug. 15, 1961)

TEXT: A patent has been granted for the preparation of concentrated (95-100%) ethylene chlorohydrin (I). Ethylene oxide (II) and HCl are fed through perforated pipes or ceramic bubblers into a cylindrical reactor (RT), filled with a liquid which, although miscible with I and solvent of II and HCl, does not react with any of these substances. Raw materials are fed at the rate of 100-1000 l/hr per 1 l of RT capacity, at a temperature from -30 to 100°C (preferably ~70°C), using 1.005-1.01 mole of HCl to 1 mole of II. The incoming minute bubbles of II and HCl vigorously react to form I. The mixture, warmed by the heat of the reaction, is water-cooled in a thermo-siphon and returned into the RT. The

Card 1/2